SCHEMATIC DIAGRAMS
MOD'S

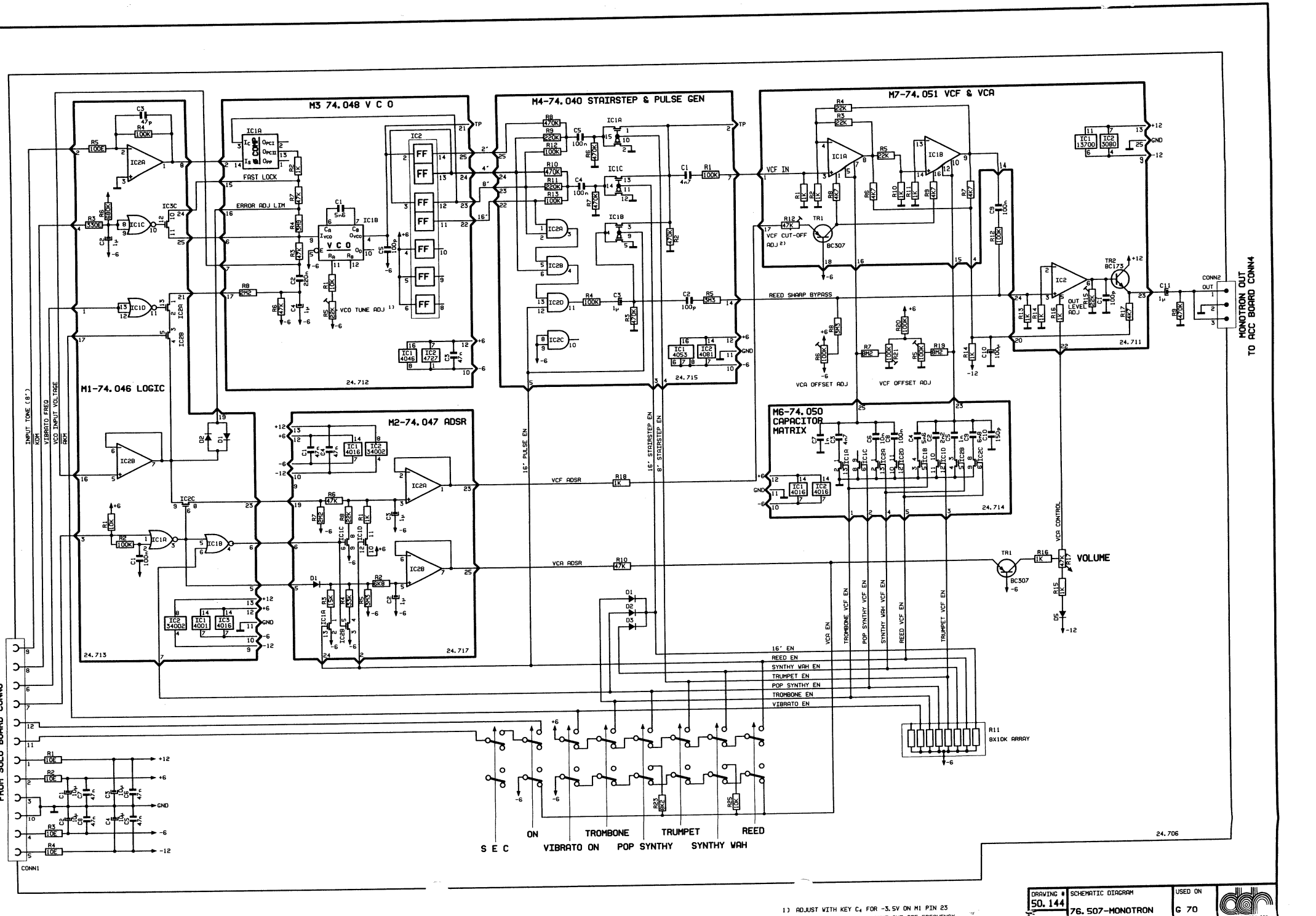
G 50 - G 60 - G 70

ELECTRONIC ORGAN

GEM® A PRODUCT OF

general electro music

MONDAINO · FO · ITALY



1) ADJUST WITH KEY C4 FOR -3.5V ON M1 PIN 23
2) ADJUST WITH REED FOR 1KHZ CUT-OFF FREQUENCY

DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.144	76.507-MONOTRON	G 70

FROM POWER TRANSFORMER

POWER SUPPLIES
TO ORGAN BOARDS

M11-74.045 ACC FILTER

M10-74.043 ACC MOD & BASS FILTER

FLUTE 4'
FLUTE 8'
MELODIA 8'
CELLO 8'
ACC VOLUME

24.718

24.764

FROM RHYTHM BOARD CONN1

ACC MOD TRIGGER

BASS

CONN1

CONN3

ARPEGGIO OUT

NC

SWELL CTR

RHYTHM OUT

FROM RHYTHM BOARD CONN2

CONN4

MONOTRON OUT

CONN5

P3.1
P3.6
P3.5
P3.7
NC

FROM SCANNING BOARD CONN4

FLUTE 16'
PIZZICATO
SUSTAIN
FLUTE 8'

FROM SOLO BOARD CONN3

CONN5

PRESET OUT

SOLO OUT

LOWER TO PHASER EN
STRINGS VIBRATO FREQ. (6.3 HZ)
STRINGS CHORUS EN
UPPER TO PHASER EN

FROM SOLO BOARD CONN6

CONN6

CHORUS MOD

M5-74.056 PHASER LOGIC

24.792

LOWER
UPPER
FAST/SLOW
CHORUS

M4-74.055 PHASER LFO

24.791

M3-74.054 PHASER CONTROL

ORGAN TO CHORUS EN
CHORUS EN
CHORUS EN
SLOW/FAST

M9-74.058 PHASER PREAMPLIFIER

24.794

PHASER FEED BACK

M2-74.063 LOW PASS FILTER

24.899

M1-74.053 DELAY LINE

24.787

PHASER MOD

24.793

AUX IN

SOLO
PHASED ACCOMPANIMENT
PHASED RIGHT
PHASED LEFT
REVERB

ACCOMPANIMENT

M13-76.466 DUAL SWELL CONTROL

24.696

M7-74.042 PWR AMP

24.722

M12-74.042 PWR AMP

24.722

M6[1]74.064 REVERB

24.045

M8-74065 PHASER MODULATOR

24.046

CONN7[1]

22.057 REVERB UNIT

CONN1

CONN2

73.035 OUTS

24.010

L OUT

R OUT

RIGHT AUX IN
LEFT AUX IN
RIGHT OUT
LEFT OUT
HEADPHONES
LEFT
RIGHT

NOTES:
1) NOT APPLICABLE ON MODEL C 60

DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.140	ACCOMPANIMENT BASS AMPLIFIERS & POWER SUPPLY	C 60 C 70

MONDRONE (PD) ITALY

PWR & CONTROLS
TO MONOTRON CONN1[3]

POWER SUPPLIES
FROM ACC BOARD

M112 DRIVER
FROM RHYTHM BOARD CONN5

M112-8 CHANNELS SOUND GEN

M2-74.028
BUFFER

M1-74.029 PERC MOD

M4-74.030 FLUTES FILTER

M6-74.061 PIANO & HARPSICHORD FILTER

M7-74.060 ACCORDION FILTER

M8-74.033 BRASS MUTE &
VIBRAPHONE/PAN FLUTE
FILTER

M9-74.034 PRESET PREAMP

M5-74.032 VIBRATO GEN

M10-74.059 VIBRAPHONE MOD

M11-74.035
PAN FLUTE NOISE GEN

M3-74.052 VIOLINS & VIOLAS FILTER[1]

UM KBD STATUS
FROM RHYTHM BOARD CONN5

CONTROLS SCANNER
FROM RHYTHM BOARD CONN1

SOLO OUT

PRESET OUT

OUT
TO ACC BOARD CONN5

CHORUS MOD
TO ACC BOARD CONN2

STRINGS CHORUS EN

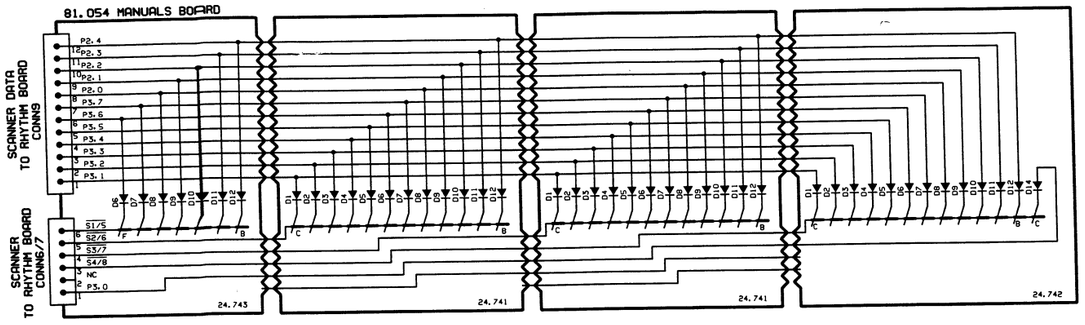
STRINGS VIBRATO FREQ (6.3HZ)

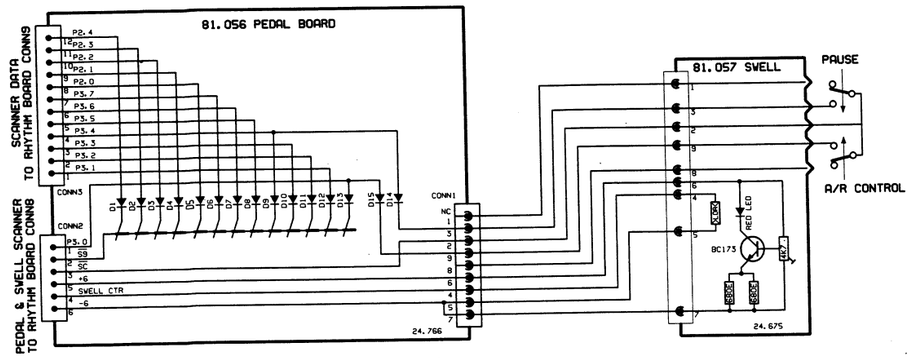
FLUTE 16' PERC 4' | FLUTE 8' FULL ORGAN | FLUTE 4' JAZZ ORGAN OR VIBRATO | FLUTE 2' SUSTAIN | HARMONY | LOUD | PRESET ON BRASS MUTE | PIANO | ACCORDION | HARPSICHORD | VIBRAPHONE PAN FLUTE | VIOLAS[1] VIOLINS[1]

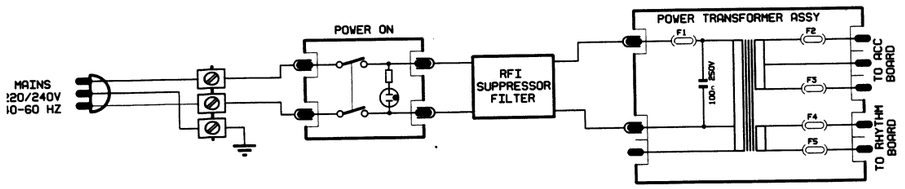
NOTES:
1) NOT APPLICABLE ON MODEL G 50
2) NOT APPLICABLE ON MODEL G 70
3) APPLICABLE ONLY ON MODEL G 50
4) APPLICABLE ONLY ON MODEL G 70

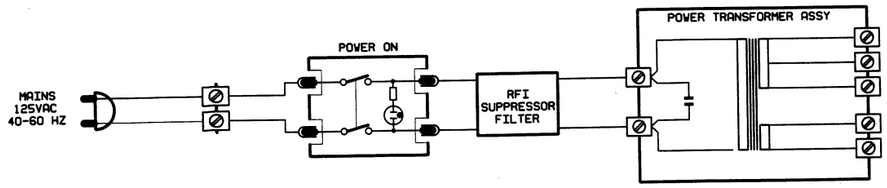
DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.135	76.504 / 76.516 / 76.508 > SOLO	G 50 / G 60 / G 70

MOGGIONO (PD) ITALY



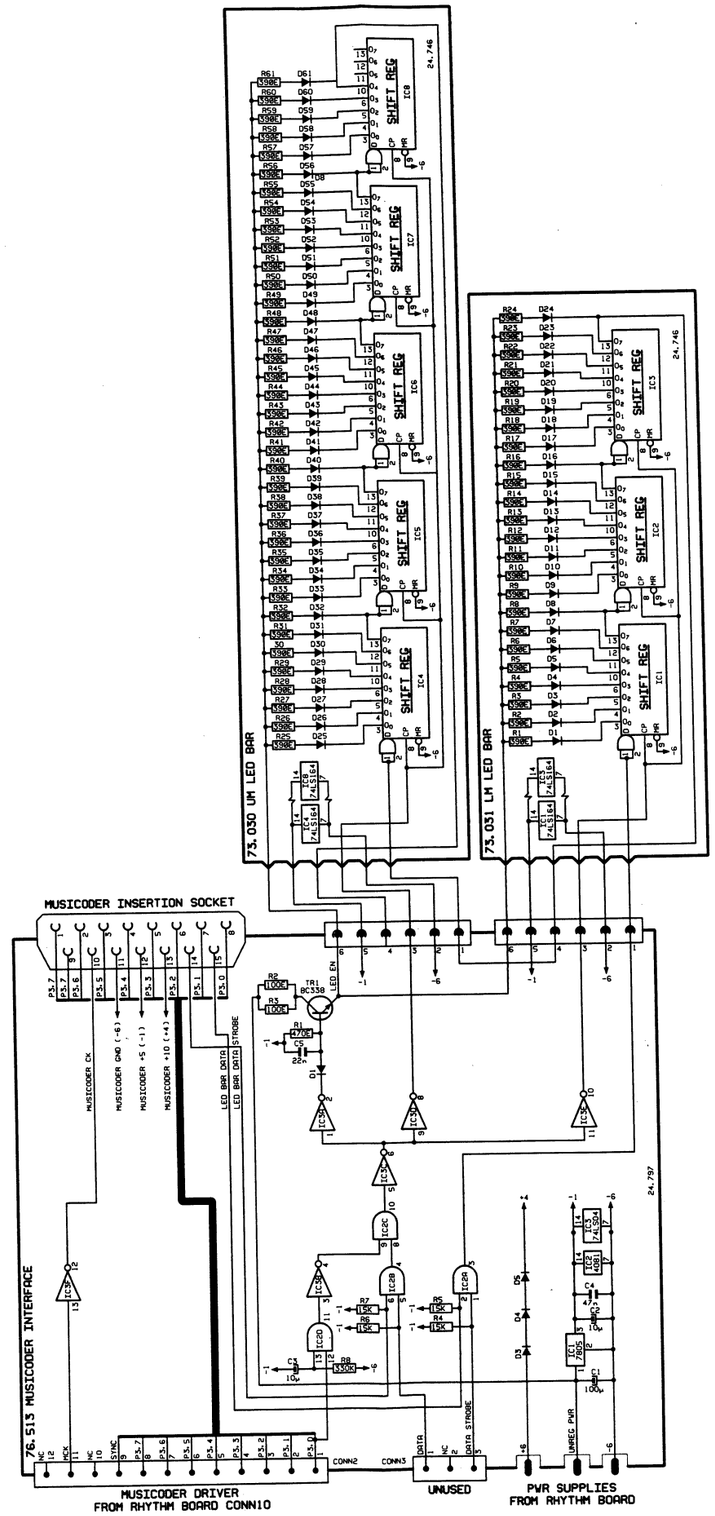






MODEL	VERSION	TRANSFORMER CODE	ASSY CODE	FUSES F1	F2, F3	F4, F5
G 50	EUROPE	23.083	73.036	T 400MA	T 1A	T 630MA
	USA	23.087	73.045	N A	N A	N A
G 60	EUROPE	23.082	73.037	T 630MA	T 1.6A	T 1A
	USA	23.086	73.046	N A	N A	N A
G 70	EUROPE	23.082	73.037	T 630MA	T 1.6A	T 1A
	USA	23.086	73.046	N A	N A	N A

DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.141	KEYBOARD PEDAL & SWELL	G 50 G 60 G 70



DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.142	MUSICODER INTERFACE & LED BARS	G 60 G 70

FROM POWER TRANSFORMER

POWER SUPPLIES
TO ORGAN BOARDS

BASS & ACC FOOTAGES
FROM RHYTHM BOARD CONN1

M3-74.043 ACC MOD
& BASS FILTER

M4-74.045 ACC FILTER

FLUTE 4'
FLUTE 8'
MELODIA 8'
CELLO 8'
ACC VOLUME
BASS VOLUME
ARPEGGIO VOLUME

24.718
24.764

ACC
BASS
ARPEGGIO

AUX IN

M2-74044 SWELL CTR

M1-74.042 PWR AMP

24.722
24.721

73.034 OUTS

AUX IN
OUT
HEADPHONES

24.010

RHYTHM & SWELL CTR
FROM RHYTHM BOARD CONN2

ARPEGGIO OUT
SWELL CTR
RHYTHM OUT

SOLO & PRESET OUT
FROM SOLO BOARD
CONN3

PRESET OUT
SOLO OUT

CONTROLS SCANNER
FROM RHYTHM BOARD CONN4

PIZZICATO
FLUTE 16'
SUSTAIN
FLUTE 8'

76.511 CHORD COMPUTER

CHORD COMPUTER DRIVER
FROM RHYTHM BOARD CONN10

MC6805-SINGLE CHIP µP

RED
BICOLOR LED
GREEN
BEAT

1/2
CPS
1/2 PLAY
RECORD

24.034

DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.139	ACC BASS PWR AMP PWR SUPPLY CHORD COMPUTER	G 50

MONDRONE (PD) ITALY

TO MUSICODER INTERFACE

TO CHORD COMPUTER CONN1
OR MUSICODER INTERFACE CONN2

SOLO CONTROLS SCANNER
TO SOLO BOARD CONN4

UM KBD STATUS
TO SOLO BOARD CONN2

UM M112 DRIVER
TO SOLO BOARD CONN1

TRANSFORMER ASSY

ACC BOARD

TO PEDAL BOARD CONN2

TO LM KBD CONN2

FROM KBDS CONN1 & PEDAL BOARB CONN3

LOG UNREG PWR

LOG PWR GND (-6)

VIBRATO FREQ (6.3HZ)

TCK (2.000.457 HZ)

M6-74.039 MASTER OSCILLATOR

TUNING COIL

DUTY CYCLE ADJ

TIMER

RHYTHM SYNCRO START TRIGGER

TEMPO

MCK (4.001.885 HZ)

M7-74.040
KBDS STATUS

BEAT

M112-8 CHANNELS SOUND GEN

M5-74.038
ACC & BASS
BUFFER

ACC MOD TRIGGER

SWELL CTR

BASS

ARPEGGIO

RHYTHM

BASS & ACC FOOTAGES
TO ACC BOARD CONN1

RHYTHM OUT & SWELL CTR
TO ACC BOARD CONN3

BASS CONTROLS SCANNER
TO ACC BOARD CONN6

M1-74.036 DRUM PREAMP

NOISE GEN

M4-74.037 CY & HH DECAY & NOISE GEN

VOLUME

8-74.041 RHYTHM TRIGGER LATCH

QUAD D LATCH

TRIGG CLEAR

HH TRIGGER

CY TRIGGER

HH ACCENT

SD TRIGGER

LB TRIGGER

HB TRIGGER

BD TRIGGER

CL TRIGGER

M3-76.445 LOW & HIGH BONGOS

M2-74.062 BASS DRUM & CLAVES

1 OF 8 DECODER

MC6801-SINGLE CHIP µP

RHYTHM DATA STROBE

SYNC

R24 8X10K ARRAY

R25 8X10K ARRAY

DRUM ON TOUCH

MANUAL BASS MAGIC CHORD

AUTOMAGIC MEMORY

ARPEGGIO VARIATION

BREAK SWING

BOSSANOVA BLUES

LATIN WALTZ

ROCK TANGO

DISCO MARCH/POLKA

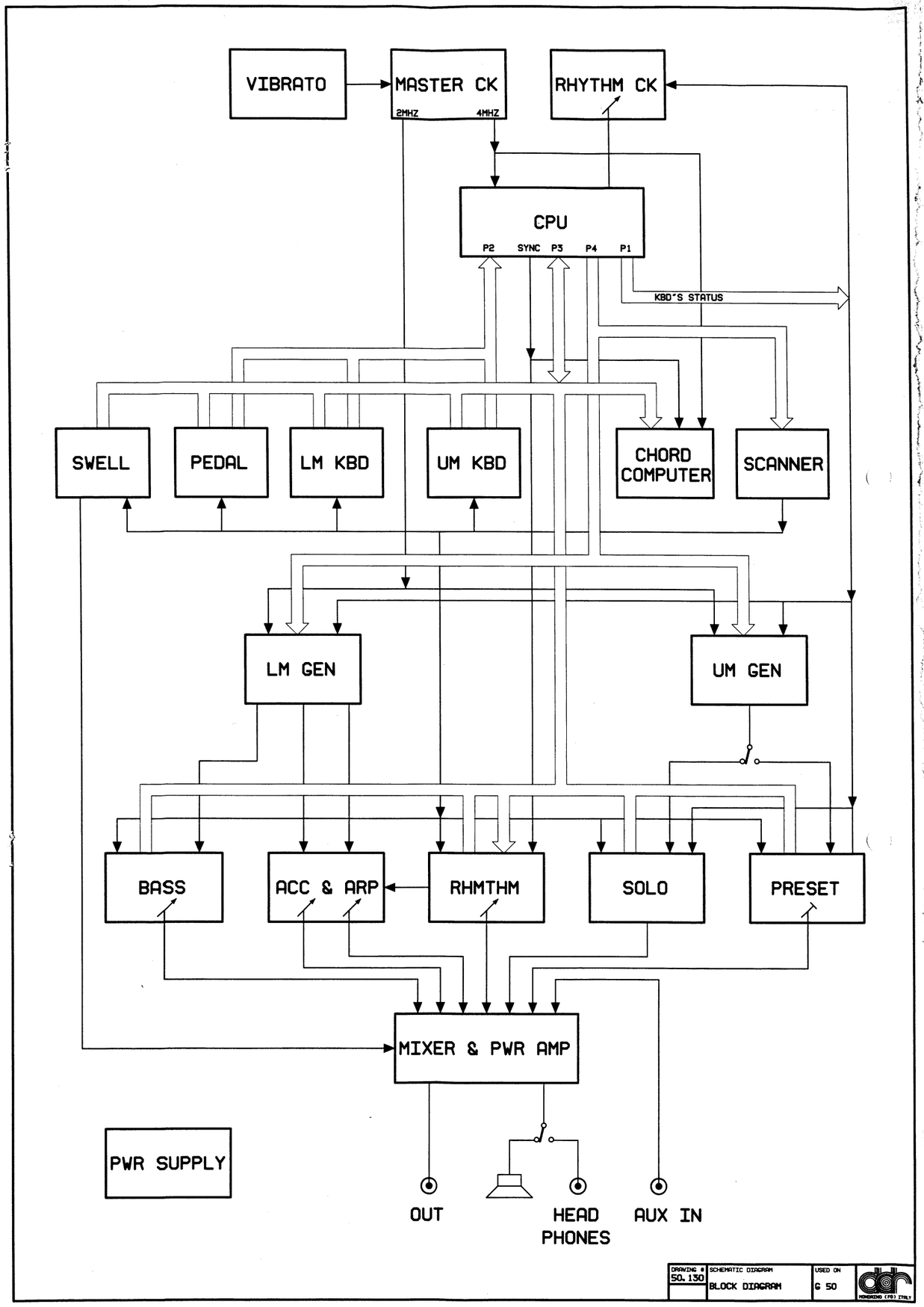
SOUL

24.704

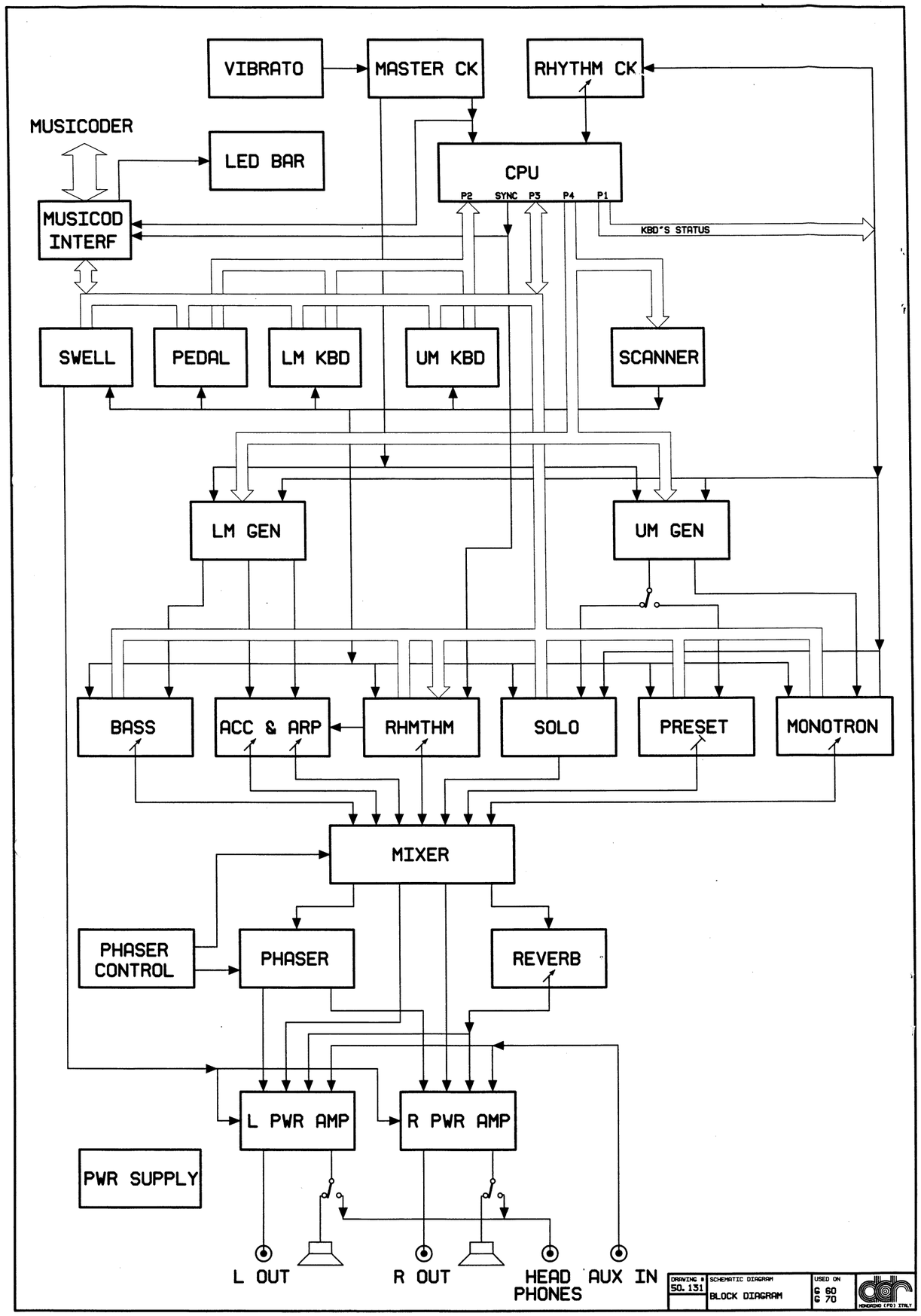
NOTES:
1) ADJUST FOR TONE "A" FREQUENCY OF 440 CPS
2) ADJUST FOR 50% DUTY CYCLE @ -5 VOLTS LEVEL ON IC2 PIN 1
3) BEAT LED IS NOT WERE CONNECTED ON MODEL G 50 (SEE CHORD COMPUTER)
4) ANTILOGARITHIC REGULATION CURVE POTENTIOMETER

DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.13	76.505-CPU RHYTHM UNIT & ACC GENERATOR	G 50 G 60 G 70

MONDRONE (PD) ITALY



DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.130	BLOCK DIAGRAM	G 50



DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.131	BLOCK DIAGRAM	G 60 G 70

DESCRIPTION	MOD.	VERS.	CODE
MAINS SWITCH		125V	11.237
		220/240V	11.239
MAINS CORD ASSY		125V	76.417
		220/240V	73.040
POWER CORD		125V	13.289
		220/240V	13.294
CORD LOCK		FOR 13.289	15.028
		FOR 13.294	15.021
POWER TRANSFORMER ASSY	G50	125V	73.045
		220/240V	73.036
	G60/70	125V	73.046
		220/240V	73.037
TRANSFORMER	G50	125V	23.087
		220/240V	23.083
	G60/70	125V	23.086
		220/240V	23.082
SWELL PEDAL ASSY			79.051
PEDAL BOARD ASSY			72.084
CONTACT SPRING			16.092
KEYBOARD ASSY			72.083
KEY		C	15.605
		D	15.606
		E	15.607
		F	15.608
		G	15.609
		A	15.610
		B	15.611
		LAST C	15.612
		SHARP	15.613
RETURN SPRING		NATURAL KEY	16.106
		SHARP KEY	16.107
RUBBER CONTACT ARRAY		C THROU E	15.506
		F THROU B	15.507
		LAST C	15.622
SWITCH ASSY		PHASER	14.472
		BASS	14.472
		ACCOMPANIMENT	14.472
		CHORD COMPUTER	14.472
		AUTOMAGIC	14.473
		DRUM	14.477
		ORGAN	14.473
		COMPUTER	14.475
	G50	PRESET	14.476
	G60/70	PRESET	14.474
		MONOTRON	14.478
IN/OUT ASSY	G50		73.032
	G60/70		73.033
JACK SOCKET: MONO			14.204
STEREO			14.205
OUTPUT PLUG (RCA)			11.502
LEFT LOUSPEAKER			22.064
RIGHT LOUDSPEAKER			22.040
POTENTIOMETER: 47K LIN			7.564
47K+47K LIN			7.596
470K NEG LOG			7.566

DESCRIPTION	MOD.	VERS.	CODE
FRONT PANEL	G50	EUROPE	15.525
		USA	15.584
	G60		15.568
	G70		15.534
PUSH BUTTON CAP: SINGLE		LIGHT BROWN	15.508
		DEEP GREEN	15.509
		BROWN LAND	15.510
		GREEN SAGE	15.511
		OLD IVORY	15.512
		RED OXID	15.513
		YELLOW	15.514
DOUBLE		GREEN SAGE	15.515
		BROWN LAND	15.516
ACTUATOR FOR SWITCH			15.532
RETURN SPRING			16.106
CONTROL KNOB		LIGHT BROWN	15.570
		DEEP GREEN	15.571
		BROWN LAND	15.572
		GREEN SAGE	15.573
		RED OXID	15.574
KNOB LOK-WASHER			15.538
POTENTIOMETER ADAPTER			15.536
ADAPTER LOCK-SPRING			16.084
LED: RED	G60/70		8.706
RED & GREEN	G50		8.704
LED SUPPORT			15.539
KEYBOARDS SEPARATOR	G50	EUROPE	15.547
		USA	15.548
	G60/70		15.623
CHEEK BLOCK: UPPER LEFT	G50	EUROPE	15.542
		USA	15.543
	G60/70		15.543
UPPER RIGHT			15.541
LOWER LEFT	G50	EUROPE	15.544
		USA	15.542
	G60.70		15.542
UPPER RIGHT			15.541
LOWER RIGHT	G50		15.542
	G60/70		15.545
MUSICODER HOUSING COVER			15.546
FRAME FULCRUM SUPPORT			15.438
NAME PLATE			18.233
A/R LABEL			18.312
PAUSE LABEL			18.313
CABINET	G50	EUROPE	71.056
		USA	71.161
	G60	EUROPE	71.057
		USA	71.162
	G70	EUROPE	71.058
		USA	71.163
MUSIC STAND	G50	EUROPE	15.556
		USA	15.585
	G60		15.557
	G70	EUROPE	15.558
		USA	15.586
REVERB UNIT			22.057

FOR REPLACEMENTS CONCERNING:
1) FLAT CABLE WIRES: SPECIFY END TERMINATIONS. 2) PRINTED BOARD ASSY(S): REFER TO SCHEMATIC(S) FOR ASSY(S) CODE

ANY REQUEST FOR NOT ABOVE MENTIONED PART MUST ENCOMPASS SPECIFIC DESCRIPTION INCLUDING:
1) MODEL NAME, 2) SECTION, 3) EVENTUAL MODULE CODE, 4) SCHEMATIC DIAG. REFERENCE

DRAWING #	SCHEMATIC DIAGRAM	USED ON
50.129	PART LIST	G 50 G 60 G 70

MONDRIAN (FO) ITALY